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INDUSTRIAL ART

ANNOUNCEMENT

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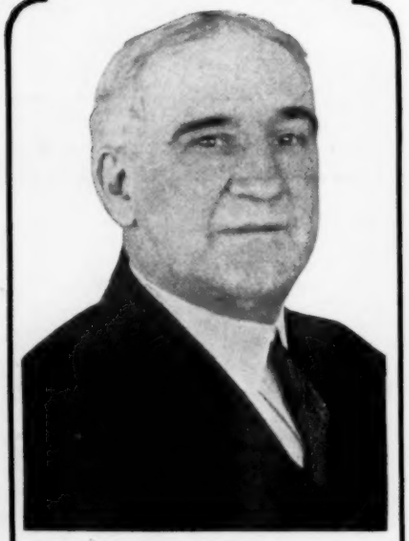

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American Gas Journal

SIXTY-FIFTH YEAR

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"APPLICANT FOR MEMBERSHIP IN THE AUDIT BUREAU OF CIRCULATIONS"

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Public Activities of Utility Men*

The public utility employee's place in the affairs of his community

Preston S. Arkwright
President Georgia Railway and Power Company

A FEW years ago in our town they were talking about getting a new city charter. They do this at intervals. In the draft of the charter brought in by the committee was a section which provided that no official or employee of a public utility should be eligible to hold any office in the city government.

Naturally, I was infuriated. The only people ostracized politically in this section of the country are niggers. Being in the public service business may make us servants of the public, but it ought not to make slaves of us.

A little more recently I was persuaded to accept a place as director of the Atlanta Chamber of Commerce. The company furnishes other public service than that of gas. It runs a street railroad, too. Most of the antagonism to public utilities, I think, is engendered in the street railway operation.

Anyhow, I accepted the place and thought I was getting along pretty well. About that time a good deal of discussion arose in the town about the street railway, growing out of a demand that it double track its lines to a temporary war camp. The Chamber of Commerce was referred to as being dominated by the Georgia Railway and Power Company. So I took it on myself to resign as a director. A few days afterwards one of my fellow directors met me on the street and said, "Arkwright, we are so glad you resigned. You have relieved us of a great deal of embarrassment."

This was during the war, and yet if it had been a contractor, or a dealer in sugar, food, coal, shoes or clothing, or any other kind of profiteer, there would have been no embarrassment.

Why is it that the community should regard a person engaged in the public utility business as an outcast?

As a matter of fact, the company furnishing the public utility service has more interest in the community than any other institution in it. Except in the very big cities, it is the largest business enterprise in the community. Certainly this is true in the cities, towns and villages of the South.

It is by all odds the largest taxpayer. All of its property is visible. There is nothing which it can conceal. Its records are open books and detailed information concerning its capitalization and earnings is spread on the public records open to general inspection. Its property is assessed for taxation in a different method from that of the ordinary citizen or property owner. Other people may return their property at what they choose, but not the public utility. Its property is assessed and there is no known form of taxation which is not levied upon it—property, and franchise, and license, and gross receipts, and capital stock, and income, and bridge rentals, and paving.

The Taxes on a Public Utility

Once upon a time I made a comparison of the taxes paid by our company, and this will serve as an illustration of the comparative part of the public burden carried by public utilities everywhere. The amounts paid by this company to the city government aggregated more than the taxes paid to the city by all of the steam railroads plus the two telegraph companies, plus the telephone company, plus the Pullman company—these representing all the other concerns that had public franchises in the city; plus all the automobiles, bicycles, motorcycles, livestock and vehicles—these representing all the other conveyances that use the public streets; plus all the skyscraper office buildings in the town, the five principal hotels, the six principal dry goods stores, plus all the household goods and kitchen furniture, all the watches and jewelry and all three of the newspapers in the town. That one company paid more to the city where it did business than all the other property

*Presented at the sixteenth annual convention of the Southern Gas Association, April 23, 1924.

and institutions above named combined, and rolled into one.

The public utility is therefore vitally interested in the policies on which the communities are run and is the largest contributor in the community to the support of the government.

Public Utilities Are Permanent

We public utilities are not fly-by-nights. We are fixed and permanent. When we plant ourselves in a community we plant ourselves there forever.

The merchant can liquidate his stock of goods, close up his shop and move away if the town's ways do not suit him. The manufacturer can dismantle his plant and set up his machinery again in some other place where the prospect may be more pleasing to him. So with the banker, the broker, the insurance man, the professional man, the workingman, the manufacturer's agent, and practically every one else. He is not tied to any one community. He goes where he fares best at his own choice.

The public utility is prevented by statute and by physical law from tearing up and moving away its tracks, or mains, or pipes, or plants, or conduits, or lines, or dams. It is as firmly fixed to the community as the ground itself. It is inextricably bound up in the destiny of the communities it serves. Not only is all of its property permanently located there, but all of its products are sold there and all of its employees must live there. It stands or falls by the growth and prosperity of that community alone. It must make good at that place and nowhere else. If it succeeds it is compelled to make its community succeed and grow. No matter how much more alluring other places may be, the public utility has got to stay put in the place where it is.

It has hundreds of thousands, in many cases millions of dollars invested in the community's present and all of its hopes and ambitions invested in the community's future.

The Public Utility Seeks No Special Privileges

Aside from any motives of civic pride and viewing it exclusively from purely selfish considerations, how perfectly ridiculous it would be to suggest that the public utility company or the public utility people could possibly deliberately do anything to retard the community's progress or refrain from doing anything in their power to aid its growth.

Whatever may have been the condition in the past, certainly now there is no special privilege or particular favor that the public utility could seek or obtain from the city government. There is no opportunity for it to over-reach the local community. Nowadays it is regulated by the state through a tribunal exercising the powers of the state, composed of members elected by all of the voters of the state. Its rates are fixed; its earnings limited; its capitalization controlled; its operations regulated; its accounts supervised; its service specified; its rules revised, and discrimination and unfair practices by it prohibited. The local community no longer has any power to pass upon its rates or to prescribe them. All this is fixed by a state tribunal. It makes no difference how much the community grows or how greatly it prospers, the share of the public utility in such prosperity is limited to a reasonable rate of return on the fair value of the property it devotes to the community's service. If the utility prospers, the community earns infinitely more out of such prosperity than the utility itself is permitted by law to take out of it.

Its Growth Has Been Great

What ground is there for considering the public utility and its people as outcasts in the community? They began their careers in an atmosphere of friendliness and co-operation. In the beginning they were small. They were locally owned. Their people were identified with the community. They received fair treatment and friendly consideration from the public they served. They rapidly developed in size. There were almost daily improvements in the supplying and application of the local public utility's services.

Street railroads were being electrified, consolidated into systems, covering the areas of towns, spreading out into suburban districts, making possible the growth and expansion of cities. So with gas and electric light and power.

In the process the companies were of necessity becoming larger and larger; the amounts of money involved growing into the millions. It takes a lot of money, as you gentlemen know, to provide the facilities to furnish the utility services for a community. The amount of money necessarily involved is really one of the troubles we have. Whenever you tell anyone how many millions of dollars are represented by the investment in your utility company, it seems that you have already lost the company's case. It is impossible for the ordinary person to conceive how any concern with millions of dollars of property should ever be lacking in money or have any necessity to increase its rates.

Necessity for Acquiring Foreign Capital

The necessary capital, not being obtainable in the locality, was drawn in from the outside.

Increasing numbers of the population were becoming each day more and more dependent on the services performed by these utilities. In the interests of low costs and efficient operation all the public utility services in one community were being concentrated in one company.

The public utilities, hence, became shining marks. They were big. They were foreign owned. They were monopolies—necessary or natural monopolies, it is true, but abhorrent nevertheless. It was so easy to teach people to hate them.

Public Utility Comes in Contact With Everyone

Every resident of the community and every visitor that comes to it pays money tribute to the public utility, either directly or indirectly, in some manner, shape or form. The public utility comes into more intimate contact with more members of the public

(Continued on page 513)

The Use of Labor Saving Machines in the Gas Industry*

Using various mechanical aids in distribution work

J. K. Crowell

Westchester Lighting Company

IN THESE days of high-priced inefficient and scarce hand labor, and with talk of further reductions in immigration quotas, many of us are searching for suitable machines to replace the laborer.

This report is an endeavor to cover rather briefly labor-saving machinery in so far as it has been applied to distribution practice in New York State. A number of companies were requested to furnish data on their experience with various types of machines and the following has been compiled principally from the information submitted:

Trenching Machines

Trenching machines are in use for main laying in several cities. They are very satisfactory in so-called good digging, even in settled communities, replacing many men and making good speed; however, it is reported that many difficulties have been encountered when trying to use them economically where large boulders are met with or where stretches of ledge rock occur.

The gasoline driven chain and bucket or ladder type of trencher with caterpillar traction seems to be the most popular. With this machine the digging is done by means of a series of toothed edged buckets connected to a chain, the whole supported by a boom which may be raised or lowered to vary the depth of trench.

The wheel type of trenching machine in which the digging buckets are spaced around the periphery of a large wheel does not seem to be in general use.

The steam driven type of excavator, which is much used in paving work, may also be equipped with a digging bucket; however, it is not suitable for a narrow trench. This machine has been used very successfully with the grading scoop in "mopping up" after a long 20-inch main job.

Air Compressors

The portable gasoline driven air compressor, with its attendant air-driven tools, seems to cover the widest field of usefulness in distribution work, principally for removing pavements with the concrete breaker, for trenching with the compressed air pick, for drilling rock, for caulking with the chipper hammer and for tamping back-filled material in a trench with the air rammer.

The multi-cylinder type of compressor, either mounted on an automobile truck chassis or on rubber-tired wheels, gives the best service, as mobility is much to be desired for economical use. The rubber-tired wheel mounting may be towed at a fair rate of speed without damage to the compressor.

Where a high degree of portability is desired, the ordinary type of mounting with wide-tired iron wheels has not proven to be perfectly satisfactory, as it is usually necessary to load the machine on a truck to move it any distance on account of the shaking up the outfit receives when being towed over ordinary roads on its own wheels at even a low rate of speed.

As a matter of economy, it is the best practice to keep a compressor operating the maximum number of tools for which it will furnish air while it is in use.

High pressure compressors at a central station are used to fill air and gas tanks for use in blowing out house piping and services. The use of high pressure air or gas in place of the ordinary type of bell hand-pump is saving one company over 22 per cent in labor costs for this work.

Paving Breaker

The compressed air pavement breaker, which has been developed within the last few years to meet a demand for this type of tool, has been found to be extremely useful. A moil point steel is generally used for wedging out rock and breaking through concrete pavements and through walls. A rather wide-bladed cutter is used in asphalt and a special wedge spade in frozen ground.

Compressed Air Picks

This tool is very satisfactory in clay and light frost digging, but for heavy work the paving breaker gives better service. One of these picks will loosen dirt for three shovelers.

Drills

The jackhammer type of compressed air drill seems to be in general use for drilling holes for blasting in solid rock trenches, also for bar holes in asphalt, granite block and other types of permanent paving. For this work a special 2½-inch face drill

*Report of the Committee on Labor Saving Machinery, read at the meeting of the Empire State Gas and Electric Association.

is used through the pavement and a needle point bar bottoms the hole in the earth below.

One company has experimented with a 2-inch fish tail earth auger driven by an air drill, for short runs of service pipe, such as under car trucks or driveways. They are going to try a 4-inch auger and if successful it is expected to use the same air drill as operates the power tapping machine.

Trench Pumps

The power-driven diaphragm type of trench pump gives most satisfactory service for handling dirty or gritty water, although centrifugals are sometimes used when very large quantities of water are to be pumped. These pumps are on the market in a variety of sizes, the diaphragm type in both the open and closed top or force forms.

The No. 3 diaphragm pump, set on a low hand-truck with a small direct connected one-cylinder gasoline engine mounted directly over the pump, makes a very handy outfit. It will run continuously with very little attention and replaces at least two men.

One diaphragm pump which has a 4x4-inch one-cylinder engine with magneto, has a capacity of from 6,000 to 10,000 gallons per hour and makes a very efficient outfit when the quantity of water is large and is much cheaper than hand pumping.

Compressed Air Caulking Machines

So far as the writer has been able to ascertain, there is not a really satisfactory caulking machine on the market for ordinary sizes of pipe. The writer has had some experience with one type of machine which was not at all encouraging.

If we could get a perfectly, round bell and spigot and get the spigot centered in the bell so as to give a joint space of exactly equal width all the way around the pipe, then the solution of the problem would be nearer. Perhaps centrifugally cast pipe would help.

Compressed Air Tapping Machines

A tapping machine, which was brought out last year, consists of a set of gears within a casing mounted on the body of a No. 18 tapping machine and driven with a "close quarter" compressed air drill. This machine will tap from 1½-inch to 4-inch holes and is a great labor and time-saver, especially when tapping holes of the larger sizes.

Backfilling Machines

Two companies report experience with the drag line scraper type of backfiller, mounted on a low truck. This machine may be operated through an arc of 180 deg. by means of its swivel carriage and is moved along the trench under its own power. It is a great time-saver on good-sized jobs. The outfit has been used with a gin pole for loading 20-inch cast iron pipe and was pronounced a success at this job.

Objection has been made to this type of backfiller on account of the difficulty in returning the material to a trench with it in even layers, suitable for thorough tamping.

Compressed Air Tampers

The backfill rammer used for this work is very thorough, although somewhat slower than hand tamping. Some companies use it only at street crossings and in backfilling trenches in permanent paving where extra care is needed to be sure no settlement of the trench will take place. This tool strikes a blow to about 20 pounds to the square inch when supplied with air at 100 pounds pressure and weighs about 22 pounds.

Thawing Outfits

Ten K. W. transformers mounted on truck with resistance coils are used for thawing pipes. The primary of the transformer is connected to the 2,400 volt primary electric circuit at a pole, the secondary connected at ends of the pipe to be thawed in series with a rheostat which is adjusted to give the flow of current through the pipe up to the full capacity of the transformer.

For ground thawing, joint melting, etc., a kerosene torch is used by some companies. This consists of a kerosene pressure tank connected by means of a metallic hose to a torch similar to a gasoline burner and is fairly successful.

Some companies feel that it is dangerous to thaw ground by means of fire, especially in cities where underground structures might be damaged.

Automobile Drip Trucks

One type of a drip wagon is a two-ton electric truck with a 600-gallon elliptical tank and an electric motor-driven suction pump. The tank is 96x 51x36 inches with a 4-inch drain connection and 1½-inch inlet. The pump has a capacity of 39 gallons per minute at 300 R. P. M. and has a single gear speed reduction, between it and the one H. P. motor which drives it. The motor receives its power from the truck storage battery.

Another outfit has a 400-gallon elliptical tank mounted on a two-ton gasoline-driven truck with power take off to drive a 50 gallons per minute rotary pump. Between the pump and the tank is a meter for measuring the amount of condensate taken from each drip. The pump and the meter are both enclosed in a metal box which is heated by an auxiliary lagged pipe from the motor exhaust.

It is reported that this outfit saves 34 per cent in the cost per drip pump compared with horse and wagon.

Some trouble is experienced with freezing of the hose between the drip and pump in extremely cold

(Continued on page 515)

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 22

Ether Waves

Forms of Ether Waves

Ether waves are the third class of waves that must be considered, and for our purpose they are most important, for heat waves are ether waves. An ether wave is simply a vibration produced in that indefinable medium which is held to pervade all matter, whether it be solid, liquid or gaseous, and which under certain definite conditions forms a transporting medium for three forms of energy, namely, electricity, light and heat. It is not our purpose to spend time in a theoretical discussion of the manner in which ether performs this function nor of the nature of light and electrical waves which are transmitted through the ether. We are principally concerned with heat waves, and at this point the transmission of heat by radiation and the laws that govern the same.

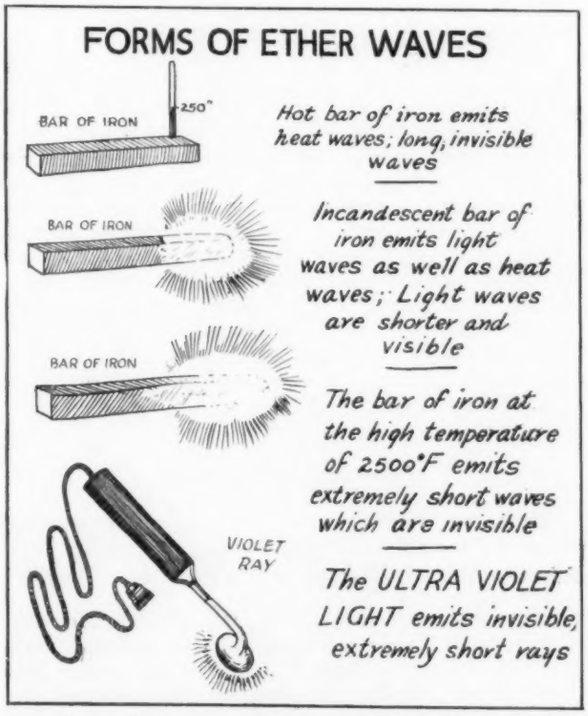
Difference Between Various Ether Waves

A distinction must, however, be drawn between the different ether waves, which general term may be employed in designating all the waves that are transmitted through the ether, whether they are of electrical, heat or light origin. It is held that all ether waves are of the same character, but that they differ in length and that the difference in length determines whether they are electrical, heat or light.

The Difference Between Ether Waves

Thus, take a bar of iron and heat it to 500 degrees F. The iron bar will radiate heat waves for its heat will be felt without the need of touching the same. But, on the other hand, it produces no light. The length of the waves that are emitted by the hot iron bar may be considered as being one twenty-thousandth of an inch. This simply means that the vibrations are so numerous that twenty thousand of them will take place in the space of one inch or that each wave is separated from the next following in the series by one twenty-thousandth of an inch.

But these waves are too long to be detected by the eye; so there is no light seen. However, if the bar of iron is heated up still further, say to a temperature where it becomes red in color, then the waves are reduced in size to approximately one thirty-thousandth of an inch and a certain color reaction is produced in the eye. In other words, the waves have become short enough to create the sensation of red in the eye. Then, as the iron bar is still further heated and its color becomes increasingly brighter, the ether waves are further decreased in length until at a temperature of 2,600 degrees F the bar of iron becomes a dazzling white. At that point the ether waves are shortest and the effect on the eye is greatest.


FORMS OF ETHER WAVES
BAR OF IRON
250°
Hot bar of iron emits heat waves; long, invisible waves
BAR OF IRON
Incandescent bar of iron emits light waves as well as heat waves; Light waves are shorter and visible
BAR OF IRON
The bar of iron at the high temperature of 2500°F emits extremely short waves which are invisible
VIOLET RAY
The ULTRA VIOLET LIGHT emits invisible, extremely short rays

The Extremely Short Invisible Waves

The waves continue to become shorter and shorter and finally they are so small that they are not visible to the eye at all. These invisible rays or waves are known as actinic waves or ultra-violet light rays. Just at what temperature these rays are first produced is not known with any great degree of ac-

curacy, but when the body attains a temperature of 2,500 degrees F, it is known that the radiation from the hot body contains a considerable proportion of ultra-violet light rays.

Heat waves are not the longest known. Hertzian waves are slightly longer. These are electrical waves and are employed in wireless telegraphy and telephony and radio transmission.

Before leaving the discussion of heat waves and ether waves in general, it must be remembered that light rays are not free from heat effects. In other words, when a body emits light it generally emanates heat waves as well. There is still no such thing as heatless light, although many attempts have been made to produce it.

A UNIQUE APPLICATION BLANK

The Southern Counties Gas Company of California has a rather unique blank to be signed by applicants for gas service which may offer worthwhile suggestions to other gas companies.

On the face of this card there is space for the name, address of the applicant and date, information as to his business and whether or not he has an automatic water heater or furnace in his home.

There is space also on the face of the card for the recording of information on these points: Former place where the applicant was using gas, meter deposit at present or old address, new meter deposit issued with the number and amount, whether or not the applicant is the owner of any real estate, and, if so, at what point, where the applicant has established credit, applicant's mailing address if different from the address already given, the ledger number and space for the proper authority to certify all of the information.

Guarantee of Payment

Then, too, the face of the card of the company has a space for a responsible individual to sign his name as guarantor of the payment of all bills. This guarantee reads like this:

"In consideration of the Southern Counties Gas Company of California accepting this account without the customary deposit, I hereby guarantee payment of all bills for gas used on the premises specified in this application until I notify, in writing, the said company to discontinue the supply of same."

This is followed by space where the guarantor signs his name and gives his address.

The following agreement which the applicant is required to sign is also contained on the face of the card:

"The subscriber in consideration of being supplied by the Southern Counties Gas Company of California with gas in the above named premises, agrees to pay for the same as bills are rendered therefor at current rates, and further agrees to the terms and rules on form E18R, copy of which has been handed me. This contract shall at all times be subject to such changes or modifications by the railroad commission of California as said commission may from time to time direct in the exercise of its jurisdiction."

The applicant is required to sign his name in full and the whole propostion is then accepted for the company by some properly qualified official.

These cards are filed, of course, first according to cities, each local office taking charge of the cards for its district. Then each office indexes the cards according to names.

Non-Payment of Bills Reduced

This application card has been uniformly successful with this company in cutting down non-payment of bills and in making applicants realize what they are doing when they contract for gas service.

All applicants are required to read the entire card carefully before signing it and are also required carefully to read the terms and rules under which the company furnishes gas service. And by getting all applicants to read all this material at the time of making the application the company saves a lot of misunderstanding later on. In fact, the Southern Counties Gas Company is as insistent upon this matter of making applicants read everything carefully as any company in the country and one of the big reasons of its success along these lines is undoubtedly due to this fact.

SEES HIGH TAXES IN PUBLIC OWNERSHIP

Although certain public utility enterprises can be, and are, better conducted by the Government than they would be by private owners, notably city water works, it does not follow that Government ownership is desirable, says Carl C. Plehn, former president of the American Economic Association.

"We should not overlook the fact that every extension of Government undertakings of this sort lessens the amount of private property subject to taxation, and increases the relative burden on the thus restricted number of taxpayers," declares Mr. Plehn.

"The railroads of the United States pay many millions a year in taxes. If the Government takes them over, it loses that source of tax revenue, and by lessening the amount of taxable property without decreasing, but probably increasing, the general costs of government, increases the burden of all remaining private property.

"To illustrate, suppose that a state and its cities were to take over the railroads, public utilities and other enterprises up to one-fourth of all taxable property. Then 75 per cent of the property now taxed would have to pay all present taxes and probably more. The result would be an increase of 33 1-3 per cent in tax rates. It would require a marvelous improvement of operation to return a benefit sufficient to cover so heavy an increase in taxes.

"It is no answer to this to say that the compensation paid for the confiscated properties would be taxable property."

As The Journal Views It

A FRANCHISE REFUSED AND RECONSIDERED

At the time that an attempt was made to force the gas companies of New York City to establish a dollar gas rate it was pointed out that the legislators at Albany were very much at fault in advocating such legislation. It was emphasized that such a procedure would result only in a waste of time and money, both on the part of the city and the gas company, and that eventually all this expense would have to be borne by the gas customer.

What has happened since then has corroborated these predictions. The dollar gas rate was overthrown, and in the legal battle which resulted the courts declared that rate was unconstitutional after a considerable amount of money was expended by both sides. Only recently the court decided that the premium on the bonds, that were given by the gas company on court order to guarantee its good faith and ability to repay gas customers the difference between the rate charged and the dollar rate, in case the courts decided in favor of the new rate, could now be collected from the state. Such has been the decision of the Supreme Court of the United States.

The lesson to be learned from the whole matter is simply this, that it does not pay the people of a community to have their legislators attempt to reduce gas rates, not because they are too high, but simply so that politicians can make a showing before their constituents. It does not pay the legislators to proceed along such lines, for they invariably do not succeed, and simply make themselves ridiculous in the eyes of the people who elect them. It is a great waste all around, and it would be a good thing that the people saw through the whole scheme and made strong attempts to prevent their avowed representatives from carrying on such practice in the future.

One of the most important, and it might be said least expected—that is, least expected by the legislators themselves—results of the passage of the dollar gas act was the refusal of a company on Staten Island to accept a franchise to supply gas in certain localities where none was available. The company simply did not see its way clear to spend money to erect plants and sell gas at such a low figure, at which no profit could possibly be made, and the people in that particular section have been without gas ever since. Recently, however, a report has been received that inasmuch as the dollar gas law has been declared unconstitutional, certain interests are ready to go ahead with the installation of gas service so that this new territory will be supplied.

It ought to be clear to every one that you cannot force people to work and invest their money in undertakings that do not produce a profit. It ought to be evident that this applies as much as to gas, even though it is a monopolized industry, as well as to the other industries. Capital will not come into the gas business unless it will receive due return.

It will not go into any business unless there is something in it in the way of profit. But as soon as the way is clear to making a reasonable profit, capital invariably enters the public utility field, particularly the gas field, without any considerable amount of persuasion.

And in order to keep it there and to continue to have more and more capital invested in the business, so that the proper extensions and development can be made, conditions must be adjusted so that gas rates are reasonable and sufficient not only to pay a fair return on the investment, but also to afford a fund for rehabilitation and to absorb business losses when they occur. The legislatures and the people at large must accept as a fundamental principle the adequate return. This applies to gas as well as other businesses. Unless a profit can be made, the business cannot exist.

Customer Ownership*

What it is doing for American workmen

H. Hobart Porter

PRESIDENT AMERICAN METER WORKS & ELECTRIC CO.

THERE is much talk, not always from the best informed sources, of class unrest, and prediction of social readjustment. Of course, it is true that in a mixed population such as ours social dissatisfaction will always exist to a greater or less extent, but personally I feel that one of the most helpful signs of our times is that the American workman is now more stable, more free from unwholesome tendencies and has a better mental outlook than at any time in our history. One of the reasons for this is that America is becoming a nation of investors, and the just protection of property, which is the basis of social happiness, is of financial interest and importance to an increasingly large number of people.

Liberty Loan Campaigns Stimulated Saving

Before 1914 the investing class in this country was, in general, limited to financial institutions and the rich minority of the population. The educational work carried on by our government in the Liberty Loan campaigns brought men and women of all walks of life into the investing class.

The universal habit of thrift and investment thus established has been since largely encouraged by the public utilities of the country, through what is known as the customer ownership plan of investment of small savings. While their immediate purpose has been to obtain funds with which to extend their service to meet the growth of the country, the larger and perhaps the most important result is that thousands of American workmen, many of them heretofore without the saving habit, and some of them with decidedly socialistic tendencies, have become investors with a stake in the country.

Much Stock Purchased by Utility Customers in 1923

Last year, it is conservatively estimated, $250,000,000 of preferred stocks were purchased by the customers and employees of public utilities in this country. This enormous amount of money represents individual purchase by thousands of people of one, two or five shares, in the majority of cases, and paid for in monthly installments of a few dollars each. In innumerable cases the customer makes his modest investment and with the dividend pays his electric light or water bill.

An Opportunity for Safe Investment

It was the working man, with his limited knowledge and experience to guide him in making investments, who suffered most from unsound or fraudulent schemes and promises. The opportunity offered him to invest his savings in his home utility, with which he is familiar, has greatly protected him from that most disheartening experience of complete loss of hard-won savings. The employee of a public utility, through his purchase of a share of its stock, acquires a financial interest in the company for which he works, which profoundly changes his viewpoint. He becomes an intelligent and energetic advocate and supporter of his public utility company, and his former attitude of vague hostility or lack of interest is gone.

The employee owner becomes as vitally concerned in bettering the service and general standards of his company as the officers themselves and he regards the company's business from the same viewpoint. This transformation, especially noticeable among the foreign population with which our companies largely deal in the industrial regions of Pennsylvania, has done as much toward Americanization, better citizenship and more wholesome social viewpoint, in my opinion, as any other influence that could possibly have been brought to bear.

*From Forbes Magazine.

IMPORTANT DECISION ON VALUATION OF UTILITY PROPERTY RENDERED BY SUPREME COURT OF PENNSYLVANIA

Some of the fundamental principles relating to value were passed on in an important decision rendered by the Supreme Court of Pennsylvania in the case of the City of Erie et al. vs. the Public Service Commission, 123, Atl. Rep. 471.

High points in the decision are:

1. The present value basis for rate making was accepted and the court showed the inconsistency of the "prudent investment" theory.

2. The present value of the property devoted to a public interest and not the original cost must be determined.

3. An order is not in conformity to law if based on reports not offered in evidence and not the subject of cross-examination.

4. It is the duty of the Commission to allow for going-concern value.

5. The Commission must set forth the elements which it considers in arriving at the aggregate value of a utility.

Catechism of Central Station Gas Engineering in the United States

Installment No. 22

(Continued from last week)

The desirability of using a low grade fuel produced on the works, and practically unsalable, might also turn the scale in favor of a special type not otherwise the most desirable.

Of course, in each case, all conditions, financial as well as engineering, must be carefully considered in making a choice of type.

Steam Boiler Construction and Efficiency

121. What are the factors in steam boiler construction which influence the efficiency of the boiler?

Ans. The chief factors in steam boiler construction which determine the efficiency, that is the percentage of the total heat furnished by the fuel consumed in the furnace which is used in the formation of steam, are:

1st. The ratio of heating surface to grate surface when the rate of consumption of fuel per square foot of grate surface is an average one; or in any case the ratio between the quantity obtained by dividing heating surface by grate surface and the rate of consumption of fuel per hour per unit of grate surface, and,

2nd. The activity of the circulation of the water in the boiler over the heating surface.

Up to a certain point any increase in these ratios or in the activity of circulation leads to a greater efficiency, as by such increase is secured that low temperature of the escaping gases which is essential to economy of operation. The efficiency does not seem to be practically affected by variations in the thickness of the plates or tubes forming the heating surface between the limits imposed by structural conditions, though ribbing these tubes or studding the plates with pins projecting into the fire space on one side and the water on the other has a good effect by increasing the heating surface.

Conclusions

From the figures obtained from a large number of boiler tests made by him, Mr. Geo. H. Barrus draws the following conclusions as to the relation necessary between the grate surface and heating surface, and in fire tube boilers between grate surface and area of tube opening.

1st. A ratio of heating surface to grate surface of 36 to 1 with anthracite coal and of 45 to 50 to 1 with bituminous coal is sufficient to secure the full efficiency, when the rate of combustion is from 10 to 12 lb. of coal per square foot of grate surface per hour.

2nd. In tubular boilers the area of tube opening should be from 1/9 to 1/10 the grate surface for anthracite, and from 1/6 to 1/7 the grate surface for bituminous coal.

Boiler Setting and Efficiency of Boiler

122. What points are to be observed in the design of a boiler setting in order to make it possible to obtain good efficiency of operation?

Ans. The chief points in the design of a boiler setting which affect efficiency of operation are the area of grate surface, the size of combustion chamber, ease of getting at all parts of the heating surface for purposes of cleaning, and the prevention of loss of heat and of influx of air through the walls of the setting.

Grate Area

The proper area of grate surface depends upon the character of the fuel and the area of heating surface of the boiler. The grate must be large enough to burn the quantity of fuel required without the necessity for an excessive draft, but not so large in proportion to the heating surface that the products of combustion will, owing to contact with an insufficient amount of boiler surface, pass out to the chimney at too high a temperature. Knowing the amount of steam that the boiler will be required to furnish and the weight of water that can be evaporated by a pound of the fuel used, the grate surface can be figured on the basis of a consumption of 10 lb. of anthracite and 15 lb. of bituminous coal per square foot per hour. This will give the largest area that will be required, which can be reduced, if found advisable, by bricking over part of the grate near the walls. The proportion between grate surface and heating surface should, according to Mr. Geo. H. Barrus, be as 1 to 36 with anthracite coal and as 1 to 45 to 50 with bituminous coal when the rate of combustion is from 10 to 12 lb. of coal per square foot of grate surface per hour. If the rate of combustion is to be higher, there must be more heating surface in proportion to grate surface. The proportions given are those which were found in the boilers which showed the best efficiency out of a great number tested by Mr. Barrus.

Combustion Chamber

The combustion chamber, that is, the space above the grate between it and the boiler, should be made large enough to enable the combustion to be completely finished before the products come in contact with the boiler. The temperature of the outside sur-

face of the boiler shell is only a very little higher than that of the water in the boiler and much below that required to carry on the combustion of the gaseous products of the partial combustion of the fuel, and therefore if these products come into contact with the boiler while still unconsumed their temperature is reduced and combustion stops, with a consequent waste of fuel. As bituminous coal gives off more gaseous products that are combustible than does either anthracite or coke, a larger combustion chamber is needed for the first than is required for the others. As the horizontal area of the combustion chamber is restricted by the size of the boiler, the increase in volume can only be obtained by an increase in the height, that is, the distance between the top of the fire and the lowest point of the boiler. With anthracite coal this height may be made as small as 18 in., but with bituminous coal it must be made much greater, a height of four or five feet being required with coal giving off a large proportion of volatile matter. The necessity of providing sufficient room to enable the combustion to be fully completed before the products are cooled below the temperature of ignition is not always understood, but where this is not done the efficiency of the boiler suffers.

When the setting is not built so that all parts of the heating surface can be easily reached for cleaning, the parts that cannot be reached will soon become coated with soot and flue dust and rendered very inefficient.

Heat Loss Through Boiler Walls

To prevent loss of heat and influx of air through the walls of the setting the outer walls should be made at least 24 in. thick, with a 2 in. air space in the middle of the wall, and where two or more boilers are set in a battery, each division wall should be in two parts with a half-inch space between them. This prevents radiation and also allows for expansion and contraction and thus reduces the liability of the walls to crack, a liability especially great in the case of a solid division wall with the boiler on one side let down while that on the other is under fire. The setting should also be well braced with buck-stays and tie-rods made strong enough for the work they are called upon to do. The part of the boiler above the setting should be covered with a plastic non-conducting material in a layer 2½ in. thick. Such a covering is a better non-conductor of heat and also lighter than the brick arch very generally employed, besides allowing greater freedom of access to the boiler in case of a leak.

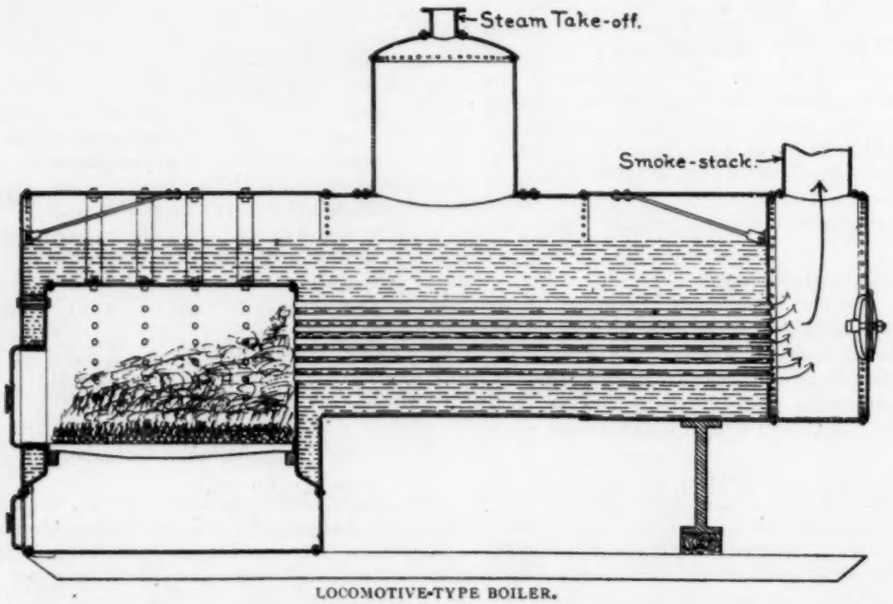
Description of Various Types of Boilers

123. Give a general description, illustrated with sketches, of a locomotive-type boiler, a horizontal water tube boiler, and a vertical water tube boiler, with the general arrangement of grate and waste gas flues used with each.

Ans. A "Locomotive-type" boiler, so called because it is universally used in locomotive construction, consists of a firebox of rectangular form, attached to a cylindrical shell closely filled with fire tubes running from the fire box to a chamber at the other end of the boiler, which chamber forms the base of the smoke stack. The products of combustion pass through the tubes and chamber, directly to the smoke stack.

The flat sides and crown of the fire box have to be closely stayed to enable them to support the pressure upon them.

This type is largely used, apart from locomotive practice, for portable boilers. The cut shows the



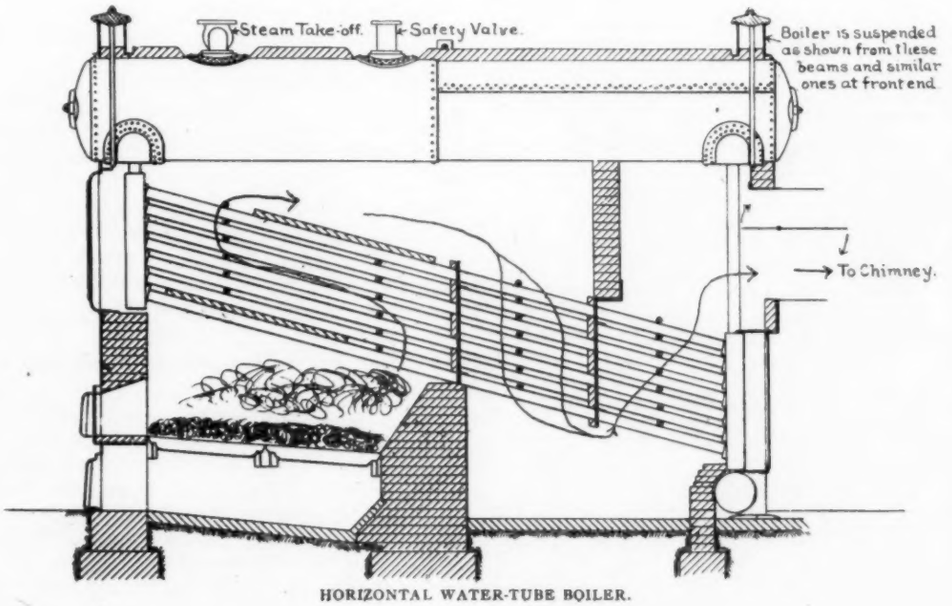
LOCOMOTIVE-TYPE BOILER.

boiler mounted upon skids. It is also frequently mounted upon wheels for greater facility of movement.

Horizontal Water Tube Boiler

A "Horizontal Water Tube" boiler consists of a cylindrical shell made of boiler plate, with heads at each end and a set of water tubes below the shell, either parallel to or at a slight angle with the axis of the shell, and connected to it at both ends, such connection being made in various ways. The water line is usually maintained at about the middle of the shell, which thus acts as a steam and water drum, the steam being taken off from the top by a dry pipe, extending the full length of the drum. The tubes furnish the principal heating surface, and the shell can be made of smaller diameter for equal capacity than in boilers of the cylindrical type, thus enabling a higher pressure to be carried without unduly increasing the thickness of the plates of which it is made.

One method of setting is shown on the cut. The products of combustion pass up between the tubes, which should be staggered to secure the best utilization of the heat, to the bottom of the drum, then down between the tubes, and up again to the chimney flue, as shown by the arrows. The boiler is preferably supported independently of the brick work of the setting.



HORIZONTAL WATER-TUBE BOILER.

Vertical Water Tube Boiler

A "Vertical Water Tube" boiler consists of a long cylindrical shell (made of boiler plate and fitted with heads), set vertically, to which are fastened tubes projecting out from the circumference. These tubes are either comparatively short with closed ends, in which case they are set radially with axes horizontal, or they are long and start from the shell, follow, for a greater or less distance, a spiral course having the same axis as the shell, and return to the shell at a point above and to one side of the starting point. In either case these tubes should be staggered in order to break up the currents of waste gases, and to prevent any of these passing out through the stack without coming in contact with heating surfaces. Some of the tubes are above the water line and the steam is taken from the boiler by small pipes radiating from the main steam pipe and extending to the outer ends of such tubes.

As shown on the cut, the setting is simply a cylinder of brick work enveloping the boiler close to the outside of the tubes, and ending in a wrought iron stack. The boiler rests upon its own foundation, and is entirely independent of the brick work. The products of combustion pass directly up between brick work and shell, being deflected from side to side by the tubes.

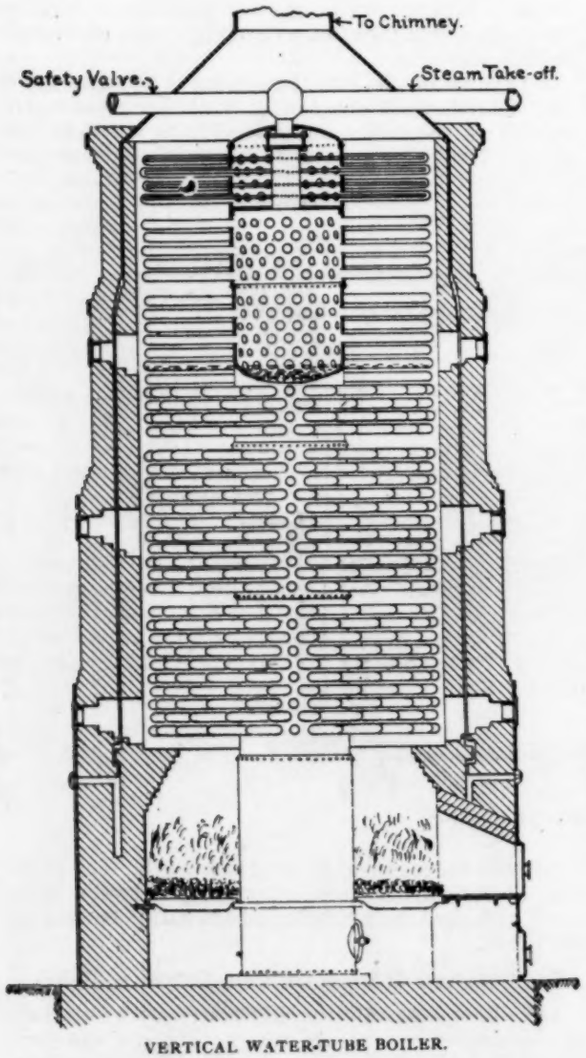
Feed Water and Blow Off Connections to Boiler

124. Give a description, illustrated with sketches, of the proper manner in which to make the feed water and blow-off connections for steam boilers, and state the faults that are to be guarded against in making such connections.

Ans. The manner of making the feed-water and blow-off connections to boilers necessarily varies with the type of boiler employed. Since horizontal return tubular boilers are used more extensively in gas works than any other type, this answer will be confined to the manner in which these connections should be made for boilers of this type.

Two important points to be observed in the arrangement of the feed-water pipe in any case are

that the comparatively cold feed-water should not be delivered directly against any portion of the shell of the boiler, especially if such portion is exposed to the fire, or to contact with the products of combustion, and that the outlet of the pipe should be so located, with reference to the water-line, that as little as possible of the water would be siphoned out of the boiler in case of any accident to the feed-pipe accompanied by failure of the check valve to work.



VERTICAL WATER-TUBE BOILER.

Even if the feed-water is heated, it is much colder than the shell, and if it is allowed to impinge directly upon the shell, the metal is severely strained by the local cooling to which it is subjected while hot at all other points. It is, therefore, very poor practice to introduce the water directly at the bottom of the boiler, or when it is introduced at a higher point, to have it delivered in a direction that carries it directly against the bottom of the shell. These, however, are very common faults in connection with feed-water pipes. A good feed-water connection is shown on the cut. The pipe is brought up on one side of the boiler at the front (the check and stop valves being placed in the order named at a convenient height on the vertical run) to a point one or two inches below the low-water line, and then run horizontally parallel to the face of the boiler through the front smoke-box to a point about 6 in. from the side; then turned and run back through the front and parallel to the side of the boiler to about a foot from the back end; then again turned, still being kept horizontal, and carried at right angles across the boiler to a point about 6 in. from the shell on the other side, where it ends in an elbow with the open end down. When the pipe is run in this way, the feed-water has an opportunity to become heated by passing through it and is delivered at a point where the water in the boiler is coolest and where there is apt to be a downward current, As the feed-water, even when admitted in this way, is cooler than the water in the boiler, it has a tendency to fall and its admission at the point named helps to secure a better circulation in the boiler.

This arrangement cannot be used with water containing much bicarbonate of lime, since the deposit formed when water of this description is heated, would soon fill up the long internal pipe. In such cases, it is advisable to use a pipe only a few inches long, opening into an open trough or a pipe of larger diameter with the top cut away; this pipe extending the full length of the boiler. Such an arrangement distributes the water well and reduces to a minimum the danger of feed-pipe stoppages.

Check Valve on Feed Pipe

The feed-pipe to every boiler should be provided with a check valve set close to the boiler, and in such a position that the valve opens vertically so that its weight assists the pressure of the boiler in closing it. A stop valve should be placed between the check valve and the boiler so that the check valve can be repaired, if necessary, without running the water out of the boiler.

Connecting the Blow-Off Pipe

The blow-off pipe is connected to the bottom of the boiler at the back end. It should be made of iron and not of brass or copper, since the latter metals are eaten away by the action of the hot gases to which a portion of the blow-off pipe is necessarily exposed. The part of the pipe so exposed should be covered with some non-conducting material, asbestos rope wound round the pipe being often used. Only straight way valves or stop cocks should be employed for shut-offs, and the openings in them should be at least the full size of the pipe. A tortuous passage, such as is found in globe valves, affords an opportunity for the trapping of loose pieces of scale against which more pieces collect until the pipe is completely choked up. With a straight way opening of the full size of the pipe, this cannot happen.

(Twenty-third Installment Next Week)

Use of Soft Coal in Water Gas Machines

Abstract of government report on important development

The feasibility of utilizing high volatile bituminous coals mined in Illinois and adjacent states in the manufacture of water gas has been demonstrated as the result of tests conducted at Streator, Ill., and other places, by the Department of the Interior, in co-operation with the Illinois Geological Survey and the University of Illinois. The matter is of considerable economic significance to gas manufacturers in the central states, as the substitution of the cheaper bituminous coals in place of coke made from eastern gas coals mined hundreds of miles away allows substantial savings in fuel costs.

Purpose of Investigation

About two-thirds of the manufactured gas supplied to the public by the gas plants in the Illinois district is carburetted water gas, states W. W. Odell and W. A. Dunkley, fuel engineers of the Bureau of Mines, in Bulletin 203, just issued by that bureau. The leading generator fuel is coke made in by-product coke ovens or in retorts, chiefly from eastern gas coals. During the fall and winter of 1917-18, when the demand for coke by war industries and the restrictions of the Fuel Administration in connection with the transportation of coke from eastern states made it almost impossible for many gas companies to obtain their coke requirements, several water gas plants had to use bituminous coal as generator fuel. Many operating difficulties were encountered, some of which were solved more or less satisfactorily in different plants. A number of plants attacked the problem rather blindly because facilities for making tests were lacking and because technical men were too busy with labor and supply problems to study thoroughly the conditions involved or to ascertain what other plants had done with this fuel. It was, therefore, with the hope of assisting the gas industry during this critical period, and of promoting the use of Central District coals for gas making, that the Illinois Mining Investigations, a joint agency of the U. S. Bureau of Mines, the University of Illinois and the Illinois Geological Survey Division, undertook these tests.

Some Works Using Soft Coal as Generator Fuel

A number of plants are now operating successfully with bituminous coal as generator fuel. The substantial saving made with this fuel, which may be as high as 8 cents per 1,000 feet, is great enough to warrant other companies giving the matter serious consideration. The saving is due chiefly to the difference in price of coal and coke and to the decreased amount of oil used per 1,000 cubic feet of gas made. Since the prices of coal, coke and oil are different in various parts of the country, the saving to be realized can only be determined when these conditions are known. However, it is very generally true that coke costs considerably more per ton than coal, and in addition a good grade of coke is only obtainable at many plants by shipment from a considerable distance.

Purification Problem

A large proportion of the total coal supply of the United States contains a rather high per cent of sulphur. When such coals are used as generator fuel, more sulphur passes into the unpurified gas and the amount of it seems to vary as the per cent of total sulphur in the coal varies. This means an added duty for the purifiers, with a resultant increase in the cost of the finished gas. In some plants where the purifying capacity is limited an increased amount of sulphur in the raw gas offers a serious problem for the engineer. High sulphur coals are very often lower in price delivered than low sulphur coals and frequently have better gas-making properties as well. Although it is natural to specify low sulphur coals from a desire to keep operating expenses as low as possible, the advantages to be gained by utilizing coals of higher sulphur content may sometimes be great enough to warrant increasing the purifying capacity.

The Bureau of Mines experiments were limited to Central District coals, therefore figures can not be given for the economies obtainable with other high-volatile coals. Many of them would, no doubt, answer equally well for this purpose. Some trouble may be anticipated, however, with coals that disintegrate when heated.

Conclusions Reached

The results of the Bureau of Mines experiments seem to justify the following conclusions:

High volatile bituminous fuel can be used efficiently in the manufacture of water gas.

An oil economy can be realized when bituminous coal is used as generator fuel, due to the increased value of the blue gas occasioned by the presence of some of the volatile matter of the coal.

When coal fuel is used, it is not necessary to operate with a relatively cold generator, thereby materially reducing the make.

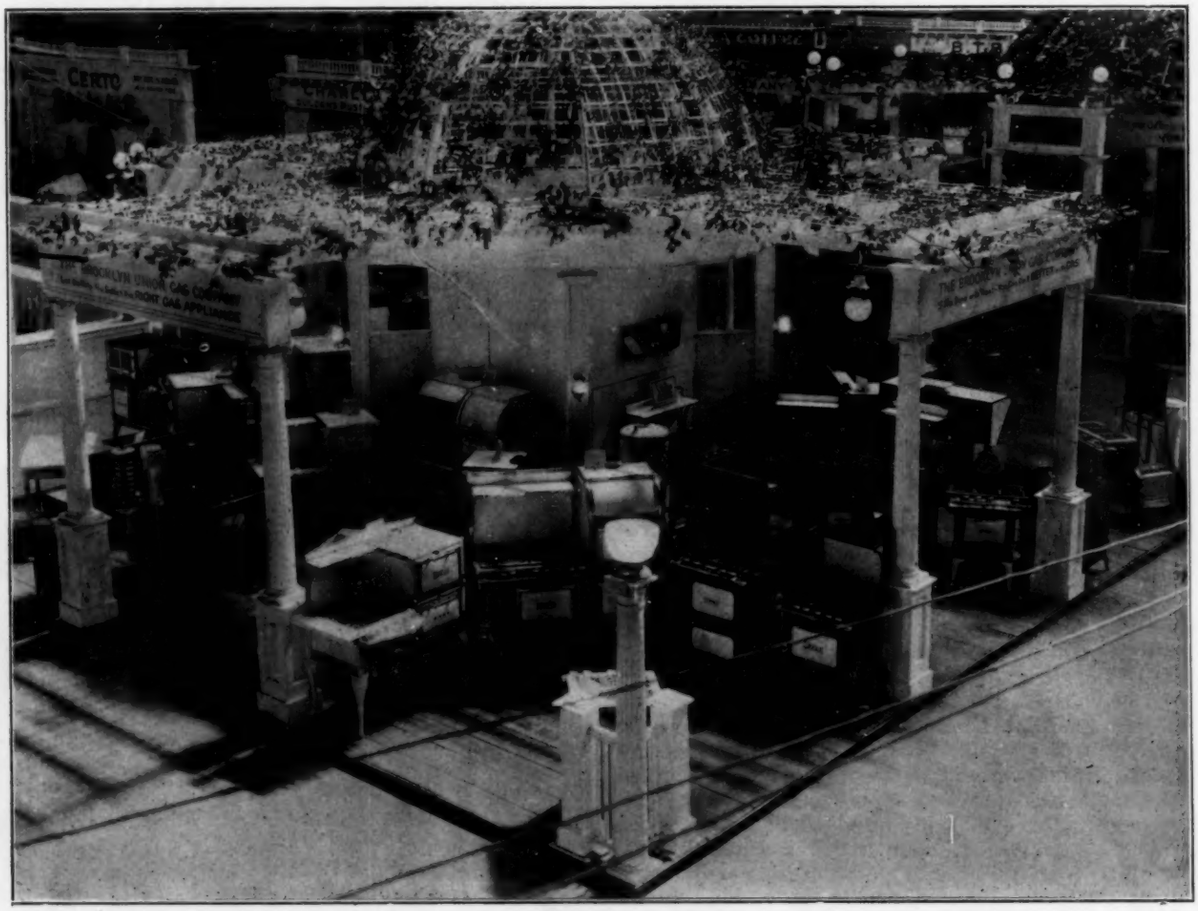
Operating methods can be so adjusted that the capacity when coal is used with the present apparatus can be made to approach that attained with a good grade of coke, and to equal or surpass that attained

(Continued on page 515)

Gas Company's Fine Display at Food Show

The Brooklyn Union Gas Co., Brooklyn, N. Y., had an exhibit at the thirty-fourth annual food show, which was held recently under the auspices of the United Grocers Association, at the Thirteenth Regiment Armory in that city.

The gas company occupied a booth located in the center of the armory, about thirty feet square, with aisles on the sides. Running from a centrally located semi-spherical latticed dome, supported by columns to each of the four aisles, was a pergola



The photographs which accompany this article show clearly the efforts that were made by the gas company to get up a fine looking exhibit, which was certainly a credit to it and the gas industry as a whole.

covered with foliage and wisteria.

The exhibit consisted of a large number of the latest devices of domestic cooking, heating and lighting appliances, as well as gas appliances for the use of bakers, packers and confectioners.

JEWELRY

Gold refiners who take discarded false teeth, second-hand jewelry and broken gold spectacle rims and convert them into ingots of bright gold have found a new way to do that.

In the past the refiners took the fragments of gold, broke them into small pieces and heated them in a crucible over a coke fire. The use of coke required constant attention and occasionally the coke itself had to be refined to catch the bits of gold that were lost.

Now gas is coming into general use for this purpose and refiners say that the crucibles heat more quickly and maintain a constant temperature without attention. Further, the handling of fuel and the removal of ashes have been done away with.

PUBLIC ACTIVITIES OF UTILITY MEN

(Continued from page 500)

than any other enterprise that does business with them. They are of all kinds and dispositions; many of them are quick to take offense. They are met by great numbers of employees, likewise of all kinds and dispositions. Some of them are apt to lose their self control and give offense.

Their properties of necessity occupy the public highways; they impede other travel; they are noisy; they have accidents. The customers have to submit to rules; rules always irritate.

Service Only Is Furnished

These companies furnish only service. When the customer gets through using it he has nothing to show for it. He gets on the street car and gets off, and he has no more than he had when he got on. He switches on the light and when he switches it off it is gone, with nothing left. He turns out the gas and it is as if it was not there. He cannot wait for his light, or his heat, or his power, or his transportation. If the service is postponed it is no longer needed.

He is billed for it monthly in terms of quantity that he doesn't undertsand; measured through an instrument he knows nothing about.

Under these circumstances it would be strange if through a period of years there was a single individual who had not at some time had a fault to find with the public utility.

So there has been a fertile field in which to work up the spirit of animosity and unfriendliness toward the public utility company and its people.

Good Service Is Fundamental

The fundamental of good public relations is good service. Unless we furnish good service we don't deserve the public good will. I am sure that if it were possible to have the public good will without deserving it through good service, and as important as good will is, the men in the gas business particularly would rather not have it. But unfortunately in our business good service alone will not bring public good will.

I had an illustration of this not so many years ago. A large customer of our company picked me up one day in his automobile. I was waiting on the corner for a street car and was one of the customers the street railway lost. This gentleman had just built a new residence. He was most enthusiastic about the pleasant negotiations he had had with an employee of the telephone company. He was so pleased that he sent him a bunch of tickets to his theater. He did not say anything about the electric and gas service, so I thought it was about time I was getting a little praise for our own company.

So, foolishly, I said, "Yes, they have a splendid reputation for treating people courteously. What kind of a reputation has our company?" He replied, "Your company has not a very good reputation." Then I asked him when he got his telephone connected and he replied that it had not been connected yet and he did not know when it would be connected. So I asked him when he expected to get his gas and electric service connected, to which he replied, "Oh, the gas and electric service was connected before I moved into the house." I could not resist saying then that I believed in good service and kind words, too, but that if I had to take one and do without the other I would take the good service and let the kind words go to the devil.

Public Friendship Not Secured by Service Alone

So you see that while good service is fundamental to good public relations it takes a little more than good service to get the public friendship.

I think we are considerably to blame ourselves for this attitude that we are not a part of the community. We have been rather inclined to treat ourselves as foreigners. Naturally, our primary business is the gas business. We cannot let anything else occupy our time to such an extent as to neglect it. We ought not, however, to confine our entire activities to it. We do not perform our part by simply rendering the public utility service, as important as that may be. Our service is rendered for pay. No matter that the service may be good, it is good money we get for it.

When we render the service and receive the pay the company and the community are "quits." They do not owe us anything simply for selling them service and we will never get any special consideration for simply performing our business duty. If we want to be regarded as a part of the community we must take part with the rest of the community in the community enterprises. How can we expect other people to regard us as a part of their community if we do not regard ourselves as one of them?

Gas Men Must Join in Community Life

Remember, most of our companies are foreign owned. Most of us engaged in the management of the companies come from outside of the territory. This is particularly true in the Southern territory, because there is no opportunity to secure education as a gas engineer in this particular territory.

So we start out unidentified and we will always be considered foreigners unless we prove that we are as much interested individually as anyone else in the community's growth. It is strictly up to us to identify ourselves with the community.

Frequently we do not take much of a part in the civic enterprises of the town. We have chiefly wanted to be let alone. We have had rather a disposition to sit quietly by, keep our mouths shut, stay out of everything else but our own particular business, hoping that the town would forget us and let us alone.

Disadvantage of Being Too Retiring

The company, of course, is in the public service. Its business is affected with a public interest. It is subject to regulation and control, so of course it has to give up a large measure of its freedom and its liberty when it goes into this particular business. And this is true of the officials and employees, too. They are as much engaged in the public service as the company is, and they naturally, also, when they enter into this business, give up some of their personal liberty and their personal freedom. It seems to me, however, we have rather exaggerated this theory. We have gone to the extreme of giving up our individual independence almost altogether. We have refrained from expressing ourselves about any public question. We have almost reached the point where we have ceased to have any ideas about the general public good. We are on neither side of any question, either in act or word. We have submerged and suppressed ourselves for fear that we might hurt the business or make an enemy here or there. We have almost injured our individual characters by being so retiring. We run around like a thief in the night, hoping nobody will notice us.

No Good Reason for It

There is particularly no reason why a gas man should do this. Why, in most of the towns in our territory, the gas company is the oldest citizen in the place. Its business began before there were any water works in most of these places, and in all of them before there were any street pavements or street cars, even before the old horse car lines; certainly before the telephone and telegraph and electric service. Why, in many of them, the gas company is older than the charter of the city or constitution of the state, has existed longer than churches, has been in business continuously longer than any merchant in the town.

In nearly every one of these communities the gas company is the oldest citizen in the community in continuous service, and generally these gas companies are operating under the same name under which they started, away back in the early part of the last century. There is nothing disgraceful in the histories of the gas companies. They have a record of long, continuous, useful, honest service. There are no skeletons in their closets. They have always kept their promises, always paid their debts, and performed a wonderfully useful service through a long period of years. They are stable, solid, responsible and respectable.

Gas Company Never Fails to Give Service

There have been only two occasions in this part of the country that you ever heard of a gas company failing in service. These occasions were during the two wars—the Civil War, when homes and business places of their customers were destroyed, and the World War, when they had to give up their needed material in order that their country could win its war.

The gas company has nothing to put over on anybody, and nothing to hide or conceal. It has a long line of honorable history, with nothing to hang its head for, but rather everything to be proud of and a tradition for uninterrupted service in community building to live up to.

While the gas service is old in years, its age has not brought feebleness. On the contrary, it has grown stronger, more vigorous and more useful as it grows older. Its most rapid strides have been made in the more recent years.

Utility Men Rightfully Participants in Community Affairs

We people in the public utility business are really more interested in the community than anybody. We have a right to take part in community affairs. Then we have a duty to take part in them. There is no real reason why the individuals employed by a public utility company should give up their political suffrage. They are citizens of the community and as citizens they ought to take part in the affairs of the community.

Do not misunderstand me. The worst enemies our own country ever had were political enemies and they dog our steps today. The company dabbled in politics in years gone by and every man the company did not support—whether he was elected or not—became the company's enemy. It is an abuse of a company's influence over its employees if it utilizes that influence to direct their participation in political matters. I think the utility company itself should stay out of politics, except, of course, when a question is involved which vitally concerns the service it renders to the public. The difficulty about the individuals connected with the utility company taking part in politics is the danger of their activities being charged to the company, but I think, if they did take part as individuals and not as a group, and if they always exercised their right of suffrage individually, it should not and ought not to affect the company.

Company Should Be Identified With Community Affairs

Both the company and the individuals composing it should take part in all worthy civic enterprises for the upbuilding of the community. The company wants to be identified with the community in the thoughts of the people. They can not possibly hope to establish such position if it always answers that it cannot legally help in any civic enterprise. All other business concerns help; why should not the public utility help?

The individuals connected with the company ought to be encouraged to give their time and talents to the upbuilding of the community. They ought not to do this for the benefit of the utility industry alone. That would be taking entirely too narrow and selfish a view. But the men in this business ought to be capable of understanding the community needs almost more than anybody else. They are already in

a quasi public service. It's a part of their business to study a community's growth all the time. They are well qualified to work out the problems affecting the community. They have special knowledge and special training and the benefit of that knowledge and that training ought not to be denied to the community.

Utility Men Will Be Benefited

What right have we to find fault with the way the town's run or the lack of enterprise in its civic growth or the way it's governed if we individually pass up and neglect all of our duties and our opportunities to take part in these activities?

It will make better men of those engaged in the utility business to identify themselves with and take an active part in the community's civic and political enterprises. It will make them feel that they are a part of the community and doing something for its good. It will help them to get over the theory that they must be submerged.

Not only will we have the satisfaction of being of some public benefit individually outside of our business and increase the pride of men in the community, but these men will make better public utility officials because they will secure the friendship and obtain a sympathetic understanding of the people they serve.

They will get rid of the little hidden feeling that many of us have that our public is inclined to be unfriendly to us.

They will understand and appreciate their point of view, their traditions, their sentiments, their ambitions, and they will be more ready to willingly render them useful service.

THE USE OF LABOR-SAVING MACHINERY IN THE GAS INDUSTRY

(Continued from page 502)

weather, but the heated casing about the pump and meter eliminates this difficulty there.

Miscellaneous

A common type of tractor equipped with a boom and nigger head has been found to be of great assistance on a large job. The crane lifts 1,000 pounds and may be used for hoisting large boulders from trench. The nigger head has a ratio of 5 to 1 and with the motor running at 1,000 R. P. M. a 24 H. P. pull is available which will lift about five tons. In combination with a gin pole, the nigger head is used to load pipe, etc.

Several companies report the possession of power-driven concrete mixers, which are used principally in replacing pavements.

In closing, just one word about the maintenance of mechanical equipment. Do not buy machinery and expect it to be properly maintained unless you intend to add somewhat to your supervisory force.

USE OF SOFT COAL IN WATER GAS MACHINES

(Continued from page 511)

with an inferior coke.

The utilization of coal in place of coke as generator fuel, when shipment from distant points is to be avoided, conserves the transportation facilities of the country.

The results of these experiments are given in Bulletin 203, "Central district bituminous coals as water gas generator fuel," which may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

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*CO-OPERATION IN ADVERTISING PLANNED

The plan of co-operation between the Public Utilities Advertising Association and the Bureau of Advertising of the American Publishers Association is as follows:

The P. U. A. A. will immediately submit to the bureau copies of the most result-producing public utility newspaper advertisements it can obtain. The bureau will then segregate these into groups—appliance selling, good will, customer ownership, etc.—and include them in a volume devoted exclusively to public utility newspaper advertising. This volume will be distributed to newspaper members of the bureau, members of the P. U. A. A., the three national utility associations and others who are interested. When published, it will be the only book of its kind in existence, and, it is hoped, will place just the kind of information in the hands of both utility and newspaper advertising men as to bring about a closer business contact between the two groups, with the net result that newspaper advertising in the public utility industry will not only be increased, but its quality improved and its continuous use assured.

All advertisements turned over to the bureau (complete campaigns or series preferred) must be accompanied by the following information:

1. Objective.
2. Length of campaign.
3. Approximate cost.
4. Results obtained.
5. The advertiser's frank opinion of the value of newspaper advertising space.

Here is a proposition that calls for 100 per cent co-operation from every member. The bureau says to us: "Give us the stuff and we'll do the rest."

If you want your company's advertisements to appear in this proposed volume you have got to act right now and send in proofs and the facts requested above. Remember, every kind of public utility advertisement is wanted, including samples of services issued by committees on public utility information.

Dig down in your files and sent in the best samples you have. And do it NOW.

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*A communication from the American Gas Association.

Current Market Prices

COALS (By Courtesy of Coal Age)

A. Bituminous.

(Spot prices, F. O. B., mines, net tons).

High Volatile, Eastern	Market	Price
Pool 54-64 (Gas Standard)	New York	$1.40 to $1.65
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	2.00 to 2.25
Kanawha lump	Columbus	(*)
Kanawha mine run	Columbus	(*)
West Virginia lump	Cincinnati	2.10 to 2.25
W. Virginia gas mine run	Cincinnati	1.35 to 1.50
Midwest		
Indiana 4th vein lump	Chicago	2.75 to 3.00
Indiana 4th vein mine run	Chicago	2.25 to 2.50
South and Southwest		
Big Seam lump	Birmingham	2.70 to 2.90
Big Seam mine run	Birmingham	1.75 to 2.25
Southeast Kentucky lump	Louisville	2.00 to 2.35
Southeast Kentucky mine run	Louisville	1.25 to 1.75

B. Anthracite.

(Spot prices F. O. B. mines, gross tons),

Market	Freight rates	Independent	Company
Egg New York	$2.34	$8.75 to $9.25	$8.35 to $8.75
Egg Philadelphia	2.39	8.35 to 9.50	8.70 to 8.75
Egg Chicago (net tons)	5.06	7.68 to 7.77	7.73 to 7.81

COKE (By Courtesy of Iron Trade Review).

Connellsville, furnace	5.00 to 6.00
Wise County, furnace	$3.25 to $3.75
Alabama, furnace	4.00 to 4.50
Foundry, Newark, N. J., del.	10.41
Foundry, Chicago, ovens	12.50
Foundry, Boston, delivered	12.50
Foundry, St. Louis	12.50
Foundry, Granite City, Ill.	12.50
Foundry, Alabama	6.00 to 6.50

PETROLEUM (By Courtesy of Oil, Paint & Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia.	
Cabell, West Virginia	$1.95
Corning, Ohio	2.15
Lima	2.28
Pennsylvania	3.75 to 4.25
Wooster, Ohio	2.15
Indiana—Illinois.	
Illinois	2.07
Indiana	2.08
Oklahoma—Kansas.	
Healdton	.90
Mid-continent (low gravity)	1.25

* No quotation, due to strike.

Gulf Coast.

Gulf Coast, Grade A	$2.00
Gulf Coast, Grade B	1.70

GAS OILS.

Gas Oil, Bayonne, bulk gal.	5½ to 6½c
Gas Oil (32-36) Illinois-Indiana,	5.05 to 5.30
Gas Oil (32-36) Oklahoma, gal.	2¾ to 3 c
Gas Oil (32-36) Gulf Coast, gal	5 to 5½c

PIPE AND FITTINGS—CAST IRON GAS PIPE.

(By Courtesy Iron Trade Review.)

Four-inch, Chicago	$64.20 to $65.20
Six-inch and over, Chicago	60.20 to 61.20
Four-inch, Birmingham	57.00 to 58.00
Six-inch and over, Birmingham	53.00 to 54.00
Four-inch, New York	70.60 to 71.60
Six-inch and over, New York	65.60 to 66.60
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; Reporter)
4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug

Ammonia aqua, 16 deg. drums lb.	5 to 5¼c
Ammonia aqua, 20 deg. drums lb.	6¼ to 6½c
Ammonia aqua, 26 deg. drums lb.	6¾ to 7 c
Ammonia squa, anhydrous cylinder, lb.	30 to 36 c
Ammonium sulphate, bulk F. O. B. Works, per 100 lbs.	$2.60 to $2.75
Potash prussiate, yellow casks, lb.	18½ to 19 c
Potash prussiate, red casks, lb.	35 to 37 c
Soda prussiate, yellow casks,	10½ to 11 c
Soda sulphocyanide, barrels, lb.	45 to 55 c

COAL TAR BASIC PRODUCTS.

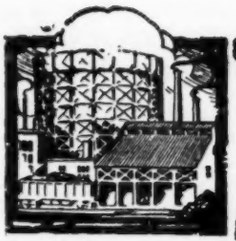
(By Courtesy of Oil, Paint and Drug Reporter)

Benzol C. P. tanks, works, gal.	24 to 25c
Benzol, drums, gal.	30c
Benzol, 90% tanks, works, gal.	23c
Benzol, 90% drums, gal.	28c
Napthalene, flake, barrels, lb.	5 to 5½c
Napthalene, dyestuff bags, lb.	5 to 5½c
Solvent Naphtha, water white works, gal.	24 to 25c
Solvent Naphtha, drums, works, gal.	29 to 30c
Toluene, C. P. tanks, works, gal.	31c
Toluene C. P. drums, works, gal.	36c

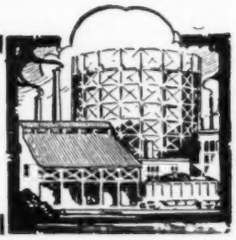
Production of bituminous coal declined slightly during the week ended May 17, according to the Geological Survey, the output being 7,074,000 net ons, compared with 7,121,000 net tons produced during the previous week. The output of anthracite was 1,895,000 net tons, a falling off of 29,000 tons from the figures for the week ended May 10.

Production of crude oil for the week ended May 17 showed a gain of 13,300 barrels per day. Most of this increase was in Oklahoma, which produced 13,050 barrels daily more than during the preceding week. Other sections which showed material gains were Arkansas, 4,700 barrels, and the Gulf Coast, which increasd 3,000 barrels daily.

Gas oil has been quiet in the local market, but price reductions have stimulafed export business somewhat from Gulf ports. Oklahoma refiners are now quoting 32-36 gas oil at 2¾c. to 3c. per gallon, a drop of ⅛c. per gallon for the week. Gas oil has also been cut in the Illinois-Indiana territory, where refiners are quoting 5.05c. to 5.30c. per gallon.



NEWS OF THE GAS INDUSTRY



Pacific Coast Gas Men Meet in the Northwest

The largest gathering of gas men ever assembled in the Northwest. Such was the pronounced indication of interest in the gas industry when the second sectional meeting of the season of the Pacific Coast Gas Association was called together in Seattle, Washington, on April 25. One hundred and nine members were in attendance. President Basford and all of the officers of the association were present, besides three of the directors and all of the chairmen of the major sections, including a number of sub-chairmen. Representatives were present from every section on the Pacific Coast.

The proceedings opened with a business session, at which the board of directors met with the chairmen of the sections for a general discussion of activities. Concerning the proposed publishing of the appliance testing code, the decision arrived at was that the appliance testing committee should proceed with its work of preparing a set of standard specifications for gas appliances and a proper procedure for the testing of such appliances in the laboratories available to the association. It was recommended and approved by the board also that the committee actually handling the appliance testing should be named the "Gas Appliance Information Committee," and authority should be entrusted to Pres. Basford to select chairmen and members of this committee. Other matters were discussed of more or less importance concerning association policy and the work of particular sections.

Progress in arrangements for the annual convention to be held in Santa Barbara in September was reports by the arrangements committee. The date of the next sectional meeting at Los Angeles was re-set, and Saturday, July 12, was selected on the request of the arrangement committee.

Affiliation With A. G. A.

At the afternoon session, Mr. E. L. Hall brought up the question of affiliation with the American Gas Association. It was the recommendation of the board that the president appoint a committee to study this question of affiliation, its benefits to the association as well as objections, and to submit their report with recommendation to the directors. An interesting paper was presented by Mr. George Whitwell on "The Backrun Process of Water Gas Operation." As the members had the opportunity to see this process in actual operation at Tacoma, the subject had additional interest. Another paper was presented by Mr. Harold S. Babb, industrial engineer of the Portland Gas & Coke Co., on "The Commercial Bread Baking Load." Both papers evoked worthwhile discussion. Sectional chairmen were urged to active interest in promoting prospects for membership. There were seventy-seven members in attendance at this afternoon session.

Every one of the one hundred and nine members attending the gathering attended the dinner at the Hotel Washington in the evening, making it the biggest dinner of its kind ever given in the Northwest. President Basford presided at the dinner and the sociability of the evening was especially marked. Mr. Gilbert and Mr. Spencer, local newspaper representatives, opened the after-dinner program by expressing Seattle's appreciation of the attendance of so many gas men from far away points on the Pacific Coast. The chairmen of the various sections of the association then made brief reports to the membership. An address was made by Mr. Hance Cleland on the matter of "Regulation of Utilities." Following this address an exceptionally good talk was given by Prof. F. J. Laube, of the University of Washington, on "Taxation." The assemblage disbanded at 10 p. m., with the unanimous opinion expressed that the meeting was a success from every point of view.

On Saturday, the 26th, the members were the guests of the Seattle Lighting Company on a trip of inspection to its gas properties, and the day was concluded by an enjoyable auto ride to Snoqualmie Falls.

H. M. Byllesby & Co. Elects New Officers—John J. O'Brien Elected President

The directors of H. M. Byllesby & Co., May 6, 1924, elected Arthur S. Huey chairman of the board and John J. O'Brien president, to succeed the late Col. H. M. Byllesby. Robert. J. Graf was elected first vice-president. The same men were elected to fill these offices for Standard Gas & Electric Co. and the Northern States Power Co. All three were associated with Col. Byllesby in the founding and upbuilding of the Byllesby organization, and with him composed the executive committee, in which full administrative and executive authorization has been lodged since the practical retirement of Col. Byllesby from active duties, due to ill health, last October. Henry C. Cummins was elected a vice-president of the H. M. Byllesby & Co. and Albert S. Cummins was elected a vice-president of the Standard Gas & Electric Co. and the Northern States Power Co.

John J. O'Brien, president of H. M. Byllesby & Co., was associated with Col. Byllesby from the inception of the organization in 1902, occupying at that time the position of treasurer and general auditor. For many years he has been vice-president of the company in special charge of financing.

As an officer or director of many of the companies operating under the management of the Byllesby organization, Mr. O'Brien has been

in close touch with the growth and development of the important utilities of the nation.

Closely identified with the electrical industry since 1885, Arthur S. Huey, chairman of the board of directors of H. M. Byllesby & Co., has been connected with the organization as vice-president since it was founded in 1902. In that position he has been prominent in the operation and management of public utility companies throughout the United States.

His career as a public utility executive has been conspicuously successful. His views on the subject of public relations have been expressed in several addresses which he made a number of years ago, and which, in printed form, have had a wide circulation.

Mr. Huey is an officer or director of many of the public utility companies operating under Byllesby direction.

Robert J. Graf was born in the District of Columbia, November 13, 1881. In 1900 he became associated with Col. Byllesby, and when the firm of H. M. Byllesby & Co. was founded in 1902, he became secretary and assistant treasurer. His entire business career has been in association with Col. Byllesby and in that connection he has been closely affiliated, as an officer or director, with many important public utility companies.

GAS RATES CUT MAY 1

Public Service Gas & Electric Co. Also Lowers Electricity Cost

New York, N. Y.—Beginning with May bills, rendered in June, the price for gas and electricity will be reduced in the territories served by the Public Service Gas & Electric Co. New rates were filed with the Public Utility Board by the two companies. Gas will be cheaper by 5 cents per 1,000 cubic feet and electricity for lighting will drop 1 cent a kilowatt hour after the first 20 kilowatt hours in each month and up to 2,500 kilowatt hours per month. For lighting the base rate of 9 cents will apply to only 20 kilowatt hours instead of 500 kilowatt hours, as at present. Reductions are also made in both retail and wholesale power rates.

There is a flat reduction of 5 cents per 1,000 in the price of gas. The new base rate is made $1.20 instead of $1.25 per cubic feet, with further reductions, according to amount purchased, until the rate gets down to 85 cents.

Ohio Gas Co. Rate Fixed by Council

Bryan, O.—The Napoleon Council has passed an ordinance fixing a rate of $2.15 per thousand feet for gas furnished the citizens of that town. This is the same rate that has been in force. Napoleon is served by the Ohio Gas, Light & Coke Co., the same company that supplies Bryan at $2.30 per thousand feet. In other respects the Napoleon ordinance is about the same as the one the Bryan Council has been considering. It sets a rate of $2.15 net based on gas containing 500 heat units per cubic foot. It also provides that the gas company shall install in the Mayor's office a device to test the quality of the gas being produced every day.

Newspaper Man Joins Gas Co.

Utica, N. Y.—Mr. J. Lyman Gollegly, until recently Sunday editor of the Utica Observer-Dispatch, has resigned that position to become head of the publicity department of the Utica Gas and Electric Co.

Tamaqua Gas Plant to Be Improved

Tamaqua, Pa.—The East Penn Light and Power Company has made an appropriation of $30,444 to improve the gas supply for Tamaqua.

The gas plant at the eastern end of town will be modernized and put in shape to give the town an adequate as well as dependable supply of gas for both domestic and commercial use.

Included among the improvements at the gas plant is a booster system which will increase the pressure of gas and force it to all parts of the town.

Ten thousand dollars of the appropriation will be spent on improveing the gas plant and the other $20,000 used for laying new pipes and extending the line to streets now without gas.

Gas Co. to Make Improvements

Edwardsville, Ill.—Considerable work is to be done this spring on extensions of the distributing system of the Southern Illinois Light and Power Company, which will be operating about thirteen miles of mains. Nearly two miles of pipe are to be laid this year and nearly that much was put in last year.

The principal places to be piped and footage of each are: Union, North Buchanan and Hanser streets, 2,400; Hillsboro road, 1,400; Charles street, 500; Ann street, 600; Olive and Pine streets, 1,040; Randle, 350; New Home addition, 2,000; Benton street, 200, and Scott street 325.

It is understood that something over 100 new customers have made connections in parts of the city which have been without service in the past.

New Gas Appliance Co. Incorporated

General Gas Generator Company, V. D. McDonell, president, of Chicago, Ill., has filed certificate of incorporation in office of Secretary of State at Albany. Corporation is capitalized at $2,000,000 and will manufacture gas generators. New York office is 938 Eighth avenue. H. J. Reily, 32 Liberty street, New York City, is attorney for the corporation.

Contracts Awarded

The Wabash Valley Electric Company of Indianapolis is installing a new water gas set and a new gas holder, and additional yard piping around the plant at Martinsville, Indiana. Contract for this apparatus has been awarded the Western Gas Construction Company of Fort Wayne, Indiana.

House Heating With Gas Popular

Compton, Cal.—While gas is recognized as a desirable fuel for residence heating, it has become increasingly popular for heating schools and churches during the last few months. Already several schools and churches in Long Beach and surrounding territory are being heated exclusively by gas. The two Junior High schools recently completed in Long Beach are utilizing steam generated by a

gas-fired boiler for their heating requirements.

Architects for school and church construction are giving especial attention to the question of heating and ventilation, with the question of uniform temperature control uppermost in their minds. The success of the child's work in the public school room is materially affected by the comfort and sanitation afforded by the premises.

Heating plants generated by gas are unique in that they are subject to absolute automatic temperature control at all times. They eliminate all mechanical control and can be regulated by the school authorities to a desirable temperature consistent with good health, and not being subject to the whims or personal inclinations of the teacher or a few pupils.

From a safety standpoint the gas fired plant is unlike all other heating installations. On steam boilers the low-water cutoff control makes an explosion due to low water impossible, as the fuel supply is immediately cut off when the water in the boiler reaches a certain safe low point.

Of special interest to parents is the elimination of the fire hazard incurred previous to the time that natural gas was introduced into Long Beach in 1916 by Southern Counties Gas Company, in which year a high pressure natural gas line was completed from the Placentia-Richfield district.

Portsmouth Gas Co. to Make Improvements

The Portsmouth Gas Company, of Portsmouth, Va., has decided to make extensive improvements to its plant. After a careful survey of its manufacturing necessities, it has concluded negotiations with the U. G. I. Contracting Company of Philadelphia for the installation of additional Carburetted Water Gas Apparatus, new blowing equipment and fuel handling apparatus. An 8 ft. U. G. I. high duty condenser and U. G. I. tar extractor, of 2,400,000 cu. ft. capacity, will also be installed, as well as additional gas connections to tie in the new apparatus.

With these improvements the Portsmouth plant will have an additional manufacturing capacity of 1,730,000 cu. ft. per day.

The U. G. I. Contracting Company of Philadelphia has been awarded contract for extensive improvements to the Hudson, N. Y., plant of the Albany Southern Railroad Company. This work will include the installation of additional carburetted water gas apparatus, condensers, purifiers, blowing plant equipment, gas mains and various other apparatus. Upon completion of the improvements, the appearance of the Hudson plant will be greatly changed and its capacity will be more than doubled.

The Smith-Heylandt Co. Just Organized

The Smith-Heylandt Co., with home offices at 2633 4th street, S. E., Minneapolis, Minn., has just been organized.

The company is capitalized at $500,000 and will take over the patents, importation, sale and distribution of the Heylandt apparatus for the manufacture of oxygen and other gases by the liquefaction process. In addition to liquefaction apparatus, liquid oxygen breathing equipment will also be manufactured.

Mr. Elmer H. Smith, president of Smith's Inventions, Inc., and the Commercial Gas Co., heads the new organization as president. Mr. John R. R. Miles will be secretary. Mr. Herman G. Amling of Maywood, Ill., the former representative of the Heylandt Co., will cooperate with the new organization and thus give them the benefit of his several years of experience in the business.

Mr. Smith advises that a new and complete catalog is being prepared and will appear at an early date. This catalog will explain and illustrate the full line of equipment that will be manufactured and imported.

Gas Companies to Erect New Holders

The Tyrone Gas & Water Co., Tyrone, Pa., has placed order with the Stacey Manufacturing Co. of Cincinnati for a 16 ft. diameter steel purifier, complete with valves and fittings. This company is now erecting a large holder for the Tyrone Company and the new purifier will be installed along with the holder work.

The Stacey Manufacturing Co., Cincinnati, has just been awarded contract for a 40,000 cu. ft. single lift holder for erection at the plant of the Niagara Ammonia Co., Niagara Falls, N. Y. This company recently installed a 100,000 ft. holder at Niagara Falls for the same people.

A. H. Wolff Passes Away

The death of A. H. Wolff adds but another name to that list of pioneers—an idealist who dreamed the dream of gas as the ideal heating fuel, and whose determination to "carry on," despite the ridicule and opposition, made him revered and honored in death as in life for his human understanding, his charming personality, and for his vast knowledge of the art and science of gas which he so generously disseminated to the industry.

No finer tribute could be paid to him than that the ideals which he cherished and for which he strove through years of adversity never deterred him from losing sight of his vision, and today the gas industry is immeasurably richer, due to the intensive research work he gave to the study of gas and to its vast and varied uses. While the industry's loss is a great one, it is somewhat minimized by the knowledge that the desire which he inculcated in his associates for the improvement of appliances for the ever new application of gas will be carried on by them.

William T. Rasch New President A. H. Wolff Gas Radiator Co.

William T. Rasch, engineer of utilization of the Consolidated Gas Company, has been appointed the president of the A. H. Wolff Gas Radiator Company.

Mr. Rasch is and has been the chairman of the committee on standards of gas appliance specifications of the American Gas Association for a number of years. His work with this committee clearly indicates his desire to have manufacturers build and gas companies and dealers sell only those appliances which are safe and efficient.

New Gas Rate for Westchester Lighting Company

Albany, N. Y.—The Public Service Commission has approved new schedule of rates for gas for the Westchester Light Company for gas service supplied in Scarsdale district, a new district including portions of the village of Scarsdale, N. Y.

Schedule filed to become effective May 20, 1924, provides rates as follows, to apply until the sales of gas to consumers within the Scarsdale district have amounted, during twelve consecutive months to at least 45,000,000 cu. ft. of gas per year:

First 100 cu. ft., 80 cents; next 100,000 cu. ft., $1.95; next 200,000 cu. ft., $1.90; next 300,000 cu. ft., $1.85; next 400,000 cu. ft., $1.80; over 1,000,000 cu. ft., $1.75.

Long Branch Co. Under New Management

The American Light & Traction Co. has sold the Consolidated Gas Co. of New Jersey at Long Branch to A. E. Fitkin Co., 165 Broadway, New York. The property will be managed for the new owners as a subsidiary of the Jersey Central Light & Power Co. by the General Engineering & Management Corp., 165 Broadway, New York.

Gas Co.'s Earnings

Boston, Mass.—Stone & Webster, Inc., report the earnings of the Blackstone Valley Gas & Electric Co. for March and the twelve months ended March 31 as follows: Gross, $364,841; surplus after charges, $55,566; twelve months' surplus after charges, $1,220,266.

Financial Notes

Laclede Gas Co. declares it regular quarterly dividend of $1.75 on common and $2.50 on preferred, payable June 16 to stockholders of record June 2.

Standard Gas & Electric declares its regular quarterly dividend of $2 on preferred, payable June 14 to stockholders of record May 31.

The Southwest Power Co. recently incorporated under the laws of Delaware with a capitalization of $3,100,000 means an extensive development of electric power in southeastern Oklahoma and western Arkansas.

Middle West Utilities Co. declares its regular quarterly of $1.75 on prior lien stock, payable June 16 to stockholders of record of May 31.

The Southwestern Power & Light Co. reports gross income of $11,502,326 for the twelve months ended March 31, compared with $10,290,367 in the preceding year. Balance after taxes, before interest and depletion, was $5,404,727, against $4,572,015 the year before.

Federal Light & Traction Co. declares extra dividend of 75 cents on the common stock payable in 6 per cent cumulative preferred stock, in addition to the regular quarterly dividend of $1. Both are payable July 1 to stockholders of record June 14.

Gas Company Wins Over Citizens' Protest

The Public Service Co. of Colorado found it necessary to erect a distributing tank at South Emerson and Arkansas avenues, Denver, a point far out in the southeastern part of the city. As usual, the people who want first-class gas service objected to the tank's location, but the City Council, knowing that the gas company only erects these tanks where they are needed, overrode all protests and told the gas company to build.

Gas Company Enriches the City

Manager of Revenue Clen W. Collins, of the city and county of Denver, Col., proclaims that Denver possesses $4,000,000 in cash; that this is a record, and then adds that more than $800,000 of the amount was paid in by the Public Service Co. of Colorado.

New Gas Rates for Canandaigua, New York

Rates fixed by the Public Service Commission for gas supplied to residents of Canandaigua, effective May 20 for one year and until further order of the Commission, are:

First 100 cubic feet, 60 cents per 100 cubic feet.

Next 4,900 cubic feet, $1.60 per 1,000 cubic feet.

Next 5,000 cubic feet, $1.40 per 1,000 cubic feet.

Over 10,000 cubic feet, $1.30 per 1,000 cubic feet.

Minimum monthly charge, 60 cents.

Present rates charged are: Lighting, $1.50 per 1,000 cubic feet; minimum monthly charge, 50 cents; fuel, $1.25 per 1,000 cubic feet; minimum monthly charge, 50 cents.

The company alleged that its existing rates did not give a return on the value of its gas property in Canandaigua, and it petitioned the Commission to allow it to charge a rate which would give it operating expenses and taxes and a 6 per cent return on the value of its property. It also asked authority to establish 537 B.t.u. Standard as now exists in other territory served by the company.

"The company," says Commissioner Van Voorhis in his memorandum, "should be directed to file with the Commission and send to the Corporation Counsel of Canandaigua monthly statements of revenues produced from these rates, and if occasion requires either party may apply to the Commission for such revision of the rates as experience thereunder may warrant."

Kinston Gas Co. to Improve

Kinston, N. C.—The Kinston Gas Co. of Kinston, N. C., having recently acquired a municipal gas plant here, contemplates making an investment this spring and summer of about $100,000, officials of the company have advised, in making extensive improvements to the plant, including a general enlargement of its capacity. New buildings are to be constructed where needed, while other improvements will include the construction of new storage tanks, etc. Work on the project is to begin at a comparatively early date that it may be completed some time during the coming summer.

New Sales Co. Incorprated

The Central Sales Corporation has just been organized with offices at 220 So. State street, Chicago, Ill. The corporation will represent the Radiant Heat Corporation of America, manufacturers of the line of Kennedy heaters. The president of the company is A. O. Eberhart, and with him is associated L. L. Campbell, former sales manager of the Radiant Heat Corporation of America.